

as a rule, last some weeks, can only be taken by the practising physician at a considerable cost, which includes loss of practice and paying another for taking over his work, in addition to the sacrifice of time that might otherwise be devoted to vacation. In Cologne, I held such graduate courses for a period of six years, and it was almost always the course in internal medicine which could boast of the best attendance. The average German practitioner possesses a live interest for scientific medicine.

It would seem, therefore, that the training of physicians in the medical science, and especially in internal medicine in Germany, is sufficient to meet all reasonable requirements. There are, of course, physicians of inferior standing in this country who by an effort have been able to pass their examinations and who do not develop later, but fortunately these form a small minority, and rarely advance to good medical positions. The German who today dedicates himself to the study of medicine must have clearly in his mind that he is to lead a life filled with labor; but if he possess ability, a life replete with the labor that breeds contentment, even though it fails to bring with it a large income.

A STUDY OF THE NORMAL COAGULATION OF THE BLOOD, WITH A DESCRIPTION OF THE INSTRUMENT USED.

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THIS brief study is more of a test for the stability and accuracy of this new instrument than a study of the coagulation time of the blood. We have tried so far as possible to eliminate the intrinsic factors which might affect the blood by choosing normal adult individuals. The intrinsic factors are as follows:

1. Those affecting the blood: (a) Viscosity; (b) blood pressure; (c) leukocytes; (d) specific gravity and anemia.
2. Physiologic conditions of the body: (a) Age and sex; (b) menstruation period; (c) time of day; (d) diet.

In the testing of any new instrument for the estimation of the coagulation time the extrinsic factors are the important ones to overcome.

The extrinsic factors are as follows: (a) Foreign body—dust or dirt; (b) area of surface contact; (c) air evaporation; (d) temperature; (e) size and shape of drop; (f) mechanical disturbances; (g) determination of end point.

We have taken the best parts of the numerous instruments on the market and combined them, thereby obtaining what we think is a simple but reliable instrument. In over three hundred tests we have found the average time to be from three and one-half to five and one-half minutes.

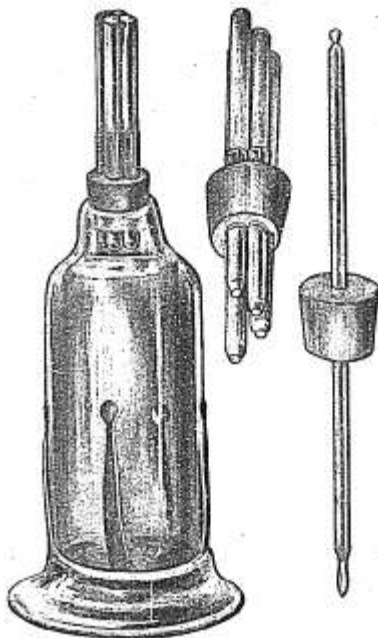


FIG. 1.—Showing various parts of the instrument.

DESCRIPTION OF THE INSTRUMENT (Fig. 1). It consists of an eight-ounce thermos bottle without the silver lining, an aluminum stand, and two rubber corks which fit snugly into the bottle. One cork has a hole in it for a thermometer which registers up to 140° F. The other cork has four openings, each of which is lined with a brass flange. Into each of these openings a glass rod fits. These rods are four and one-half inches long with a diameter of 8 mm. One end is cone-shaped, with a flat tip 4 mm. in diameter. The

other end is slightly bulbous, to prevent the rod from slipping through the flange.

METHOD OF APPLICATION. The thermos bottle is filled with water at 98° F. to within one inch of the top. It is then covered with the cork containing the thermometer to prevent any change in the temperature of the water. The rods within the second cork are first scrubbed with soap and water and then cleansed with alcohol and finally with ether. This cork is then substituted for the one containing the thermometer, so that the rods will become heated to the temperature of the water. This is done while the finger of the patient is being prepared. The rods during the time that they are in the bottle heating up to the temperature of the water will have collected considerable moisture, and it is therefore necessary to wipe them dry before collecting the blood, else the moisture will dilute the drop of blood. The finger is given a good stick, so that it bleeds without pressure. The first drop of blood is wiped off, and as soon as the second drop or whatever drop you are going to use appears. As soon as the drop begins to appear the cork containing the glass rods is removed from the bottle and the rods are wiped dry. Then with care each one of the rods is placed in contact with the drop of blood. If done carefully the same size drop will be taken up by each rod. From the time of the appearance of the drop until the blood is collected and the cork replaced in the bottle should not be more than ten seconds.

The end point with this instrument is determined in three ways: I. In explaining the end results we shall number the glass rods in the order in which the blood was collected upon them. At the end of two and one-half minutes rod No. 1 should be pushed down into the water. It will be noted that all the blood falls off the end of the glass rod and breaks up into a fine cloud. Rod No. 2 is introduced into the water at the end of three and one-half minutes. There will still be considerable falling off of the blood, but when it breaks up the particles will be coarser and there will remain a small amount on the end of the rod. Rod No. 3 is introduced into the water at the end of four minutes. There will still be noted some dropping off of the blood, and there will be found a larger amount of blood adherent to the end of the rod. Rod No. 4 is introduced into the water at the end of four and one-half or five minutes, depending upon the action of the former rods. There will be a slight falling off, but the greater part will be found to be adherent to the end of the rod if coagulation has taken place. The fact that we start at two and one-half minutes from the time of the appearance of the drop is only an arbitrary factor. The test can begin at any time and the rods be introduced at any time that the operator desires.

II. The cork containing the four rods is now removed from the

bottle and held up to the light, with the end on which the blood is adherent nearest to the eye. On looking through the rods the following results will be found: Rod No. 1 will be clear. On Rod No. 2 will be observed a slight reddish tinge. On Rod No. 3 this reddish tinge will be somewhat deeper in color and the end of Rod No. 4 will be almost covered with a red clot.

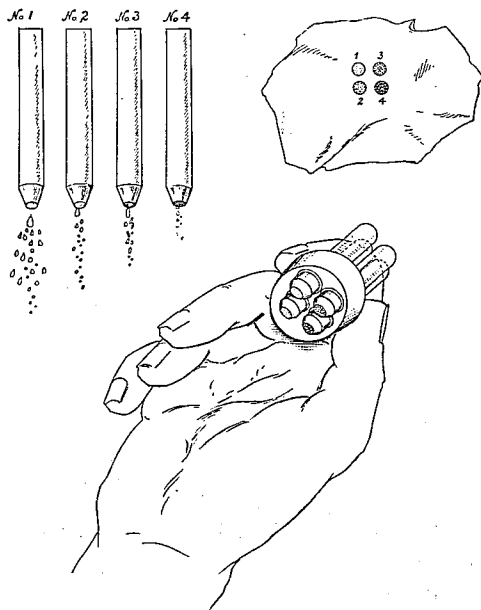


FIG. 2.—Method of application.

III. The end of each rod is blotted with filter paper or blotting paper, as shown in Fig. 2. The blot made by Rod No. 1 will be practically clear. Rod No. 2 will show a slight red color, Rod No. 3 will show a more distinct red, and Rod No. 4 will show a clot. If the last rod does not show the blood to have coagulated the test should be repeated, with the first rod introduced at four minutes and the others at either one-half minute or one-minute interval.

It is a well-established fact that the first drop does not coagulate as rapidly as the later ones, and as we want to know the shortest time we take about the fourth or fifth drop. Blood that is taken from the veins and does not come in contact with the tissue juices does not give the true clinical coagulation time. The tissue juices are one of the most important factors in the causation of coagulation.

An almost complete bibliography and description of the different instruments used for determining the coagulation time can be found in Dr. Myer Solis Cohen's article, "The Coagulation Time of Blood as Affected by Various Conditions."

I am indebted to Dr. Allen J. Smith and to Dr. Ludholts for suggestions and criticisms.

Messrs. Chas. Lentz & Co., Philadelphia, have placed the instrument on the market.

**CHRONIC ULCER OF THE PYLORUS (DUODENAL AND GASTRIC)
SECONDARY TO APPENDICITIS, COLITIS, BILE-TRACT
INFECTION, AND OTHER FOCI OF INFECTION
WITHIN THE AREA DRAINED BY THE
PORTAL VEIN.¹**

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THE history of the modern study of "stomach trouble" may easily be arranged into three periods. It has not been many years since we heard much and long of the stomach specialists. These gentlemen on the medical side were treating the organ with bitter and acrid medicines, dietetic restrictions, the stomach tube, electricity, and other remedies; and certain enthusiastic surgeons were coupling the stomach to the bowel under the mistaken impression that they were diverting an imaginary, harmful digestive fluid from an imaginary sore spot in the region of the pylorus. In reality the "stomach specialist" was often treating an organ guilty only of making known the symptoms referred to it from such lesions as chronic appendicitis, bile-tract infection, pancreatitis, pulmonary, cardiorenal, brain, spinal cord, and other diseases, or presenting only slight pathology, and that of secondary development.

In the second period it was asserted by many that nearly all "stomach troubles" were in reality not stomach diseases at all, but only "reflex symptoms" indicating disease elsewhere. During

¹ Read at the meeting of the Medical Society of Virginia, held at Norfolk, Virginia, October 23, 1912.